

LISTING OF THE CLAIMS

This listing of claims will replace all prior versions and listing of claims in the present Application. Though no amendments are currently being submitted, Applicants submit this current listing for the Examiner's convenience.

We claim:

1. (previously presented) A medical container having a negative image bar code comprising:
 - a medical container;
 - a plurality of light-reflecting segments disposed on the container,
 - wherein the container defines spaces that separate the light-reflecting segments,
 - wherein the spaces define light-absorbing segments,
 - wherein the light-reflecting segments and the light-absorbing segments define a negative image bar code representing fixed information and variable information,
 - wherein the negative image bar code is detectable using a reader, and
 - wherein the variable information comprises at least one selected from the group consisting of: lot number, batch number, expiration date, serial number, production time, price, and concentration.
2. (previously presented) The medical container of claim 1 wherein the light-reflecting segments are indicia that can be detected by a reader.
3. (previously presented) The medical container of claim 2 wherein the indicia is visible to the naked human eye.
4. (previously presented) The medical container of claim 3 wherein the indicia has a color selected from the group consisting of white, red, yellow, orange, gold, and silver.

5. (previously presented) The medical container of claim 2 wherein the indicia is not visible to the naked human eye.

6. (previously presented) The medical container of claim 1 wherein the fixed information remains unchanged for a first period of time while the variable information changes during the first period.

7. (previously presented) The medical container of claim 1 wherein the fixed information is selected from the group consisting of product name, product manufacturer, Universal Product Code, Universal Product Number, National Drug Code, National Health Related Industry Code, and label copy data.

8. (canceled)

9. (canceled)

10. (previously presented) The medical container of claim 1 wherein the medical container comprises a thermoplastic polymer or a thermoset polymer.

11. (previously presented) The medical container of claim 10 wherein the thermoplastic polymer or the thermoset polymer is selected from the group consisting of polyvinylchloride, polyvinylidichloride, polyolefins, polyamides, polycarbonates, polyesters, thermoplastic elastomers, elastomers, polyimides, polyurethanes, ethylene vinyl alcohol copolymers, ethylene vinyl acetate copolymers, ethylene copolymers, propylene copolymers, acrylic acid copolymers, ethylene substituted acrylic acid copolymers, α -olefin substituted acrylic acid copolymers, hydrocarbon block polymers, ethylene propylene diene polymers, nylon, mono-layer film structures and multi-layer film structures.

12. (previously presented) The medical container of claim 11 wherein the polyolefin is produced from an α -olefin having from about 2 to about 20 carbons.

13. (previously presented) The medical container of claim 12 wherein the α -olefin is ethylene or propylene.

14. (previously presented) A container having a negative image bar code, the container comprising:

- a flexible film;

- a plurality of light-reflecting segments disposed on the film,

- wherein the film defines spaces that separate the light-reflecting segments,

- wherein the spaces define light-absorbing segments,

- wherein the light-reflecting segments and the light-absorbing segments define a negative image bar code representing fixed information and variable information,

- wherein the variable information comprises at least one selected from the group consisting of: lot number, batch number, expiration date, serial number, production time, price, and concentration, and

- wherein the negative image bar code is detectable using a reader.

15. (previously presented) A medical container having a negative image bar code comprising:

- a medical container;

- a first plurality of light-reflecting segments disposed on the medical container, wherein the medical container defines first spaces that separate the first plurality of light-reflecting segments, wherein the first spaces define a first set of light-absorbing segments, and wherein the first plurality and the first set define a first negative image bar code representing fixed information;

- a second plurality of light-reflecting segments disposed on the medical container, wherein the medical container defines second spaces that separate the second plurality of light-reflecting segments, wherein the second spaces define a second set of light-absorbing segments, wherein the second plurality and the second set define a second negative image bar code representing variable information, wherein the variable information comprises at least one

selected from the group consisting of: lot number, batch number, expiration date, serial number, production time, price, and concentration; and

wherein the first bar code and the second bar code are each detectable using a reader.

16. (previously presented) A medical container having a negative image bar code comprising:

a medical container;

a plurality of light-reflecting segments disposed on the medical container, wherein the medical container defines spaces that separate the plurality of light-reflecting segments, and wherein the spaces define light-absorbing segments;

wherein the light-reflecting segments and the light-absorbing segments define a negative image bar code representing variable information;

wherein the negative image bar code is detectable using a reader; and

wherein the variable information comprises at least one selected from the group consisting of: lot number, batch number, expiration date, serial number, production time, price, and concentration.

17. (previously presented) A container comprising:

a flexible film;

a plurality of light-reflecting segments disposed on the flexible film, wherein the flexible film defines spaces that separate the plurality of light-reflecting segments, wherein the spaces define a set of light-absorbing segments, wherein the plurality and the set define a negative image bar code representing variable information, wherein the bar code is detectable using a reader, and wherein the variable information comprises at least one selected from the group consisting of: lot number, batch number, expiration date, serial number, production time, price, and concentration.

18. (previously presented) A container system comprising:

a medical container;

a plurality of light-reflecting segments disposed on the medical container, wherein the medical container defines spaces that separate the plurality of light-reflecting segments, wherein the spaces define light-absorbing segments, wherein the light-reflecting segments and the light-absorbing segments define a negative image bar code representing fixed information and variable information, and

a material positioned over a portion of the bar code, wherein the portion has an A or B scan grade when decoded through the material and in accordance with ANSI X3.182.

19. (previously presented) A container system comprising:

a medical container;

a first plurality of light-reflecting segments disposed on the medical container, wherein the medical container defines first spaces that separate the first plurality of light-reflecting segments, wherein the first spaces define a first set of light-absorbing segments, and wherein the first plurality and the first set define a first negative image bar code representing fixed information;

a second plurality of light-reflecting segments disposed on the medical container, wherein the medical container defines second spaces that separate the second plurality of light-reflecting segments, wherein the second spaces define a second set of light-absorbing segments, and wherein the second plurality and the second set define a second negative image bar code representing variable information;-and

a material positioned over a portion each bar code, wherein each portion has an A or B scan grade when decoded through the material and in accordance with ANSI X3.182.

20. (previously presented) A container system comprising:

a medical container;

a plurality of light-reflecting segments disposed on the medical container, wherein the medical container defines spaces that separate the plurality of light-reflecting segments, wherein the spaces define a set of light-absorbing segments, wherein the plurality and the set define a negative image bar code representing variable information;

a material positioned over a portion of the bar code, and

wherein the portion of the bar code has an A or B scan grade when decoded through the material and in accordance with ANSI X3.182.

21. (previously presented) A container system comprising:

- a flexible container;

- a plurality of light-reflecting segments disposed on the flexible container, wherein the flexible container defines spaces that separate the plurality of light-reflecting segments, wherein the spaces define light-absorbing segments, wherein the light-reflecting segments and the light-absorbing segments define a negative image bar code representing fixed information and variable information, wherein the variable information comprises at least one selected from the group consisting of: lot number, batch number, expiration date, serial number, production time, price, and concentration, and wherein the bar code is detectable using a reader;

- a material positioned over a portion of the bar code, wherein the portion of the bar code has an A or B scan grade when decoded through the material and in accordance with ANSI X3.182.

22. (previously presented) A container comprising:

- a film that defines the container

- a plurality of light-reflecting segments disposed on the film, wherein the film defines spaces that separate the light-reflecting segments, wherein the spaces define set of light-absorbing segments, wherein the plurality and the set define a negative image bar code representing variable information, wherein the bar code can be detected by a reader, and wherein the variable information comprises at least one selected from the group consisting of: lot number, batch number, expiration date, serial number, production time, price, and concentration.

23. (previously presented) A method of transferring a negative image bar code onto a flexible web comprising the steps of:

- providing a flexible web;

- providing a printer capable of transferring a plurality of light-reflecting segments onto the web in response to a signal representative of the plurality of light-reflecting segments,

transferring the signal to the printer; and

transferring the plurality of light-reflecting segments onto the web, wherein the web defines spaces that separate the plurality of light-reflecting segments, wherein the spaces define a plurality light-absorbing segments, wherein the light-reflecting segments and the light-absorbing segments define a negative image bar code that can be detected by a reader, wherein the negative image bar code represents fixed information and variable information, and wherein the variable information comprises at least one selected from the group consisting of: lot number, batch number, expiration date, serial number, production time, price, and concentration.

24. (previously presented) The method of claim 23 wherein the printer is a thermal transfer printer, a hot-stamp printer, a laser printer, an ink-jet printer, or a flexographic printer.

25. (previously presented) A container system comprising:

a flexible container;

a plurality of light-reflecting segments disposed on the flexible container, wherein the flexible container defines spaces that separate the plurality of light-reflecting segments, wherein the spaces define light-absorbing segments, wherein the light-reflecting segments and the light-absorbing segments define a negative image bar code representing variable information, wherein the variable information comprises at least one selected from the group consisting of: lot number, batch number, expiration date, serial number, production time, price, and concentration; and

a material positioned over a portion of the negative image bar code, wherein the portion of the bar code has an A or B scan grade when decoded through the material and in accordance with ANSI X3.182.

26-32. (canceled)

33. (previously presented) The container of claim 14 wherein the container is a medical container.

34. (previously presented) The container of claim 33 wherein the light-reflecting segments are indicia having a color selected from the group consisting of white, red, yellow, orange, gold, and silver.

35. (previously presented) The medical container of claim 34 wherein the negative image bar code comprises a symbology selected from the group consisting of: Code 16K, Code 39, Code 49, Codabar, Code 128, UPC-E, UPC-A, EAN-8, EAN-13, Reduced Space Symbology, composite symbol, PDF-417, and Interleaved 2-of-5.

36. (previously presented) The medical container of claim 34 wherein the negative image bar code is a two-dimensional symbology.

37. (previously presented) The medical container of claim 15 wherein the medical container is flexible.

38. (previously presented) The medical container of claim 15 wherein the first or second negative image bar code comprises a symbology selected from the group consisting of: Code 16K, Code 39, Code 49, Codabar, Code 128, UPC-E, UPC-A, EAN-8, EAN-13, Reduced Space Symbology, composite symbol, PDF-417, and Interleaved 2-of-5.

39. (previously presented) The medical container of claim 16 wherein the medical container is flexible.

40. (previously presented) The medical container of claim 16 wherein the light-reflecting segments are indicia having a color selected from the group consisting of white, red, yellow, orange, gold, and silver.

41. (previously presented) The medical container of claim 40 wherein the negative image bar code comprises a symbology selected from the group consisting of: Code 16K, Code

39, Code 49, Codabar, Code 128, UPC-E, UPC-A, EAN-8, EAN-13, Reduced Space Symbology, composite symbol, PDF-417, and Interleaved 2-of-5.

42. (previously presented) The medical container of claim 40 wherein the negative image bar code is a two-dimensional symbology.

43. (previously presented) The container of claim 17 wherein the container is a medical container.

44. (previously presented) The container of claim 43 wherein the negative image bar code has a length less than 72 millimeters.

45. (previously presented) The container of claim 43 wherein the negative image bar code has a length less than or equal to 52 millimeters.

46. (previously presented) The container of claim 43 wherein the negative image bar code has a length less than or equal to 22 millimeters.

47. (previously presented) The container system of claim 18 wherein the negative image bar code has a length less than 72 millimeters.

48. (previously presented) The container system of claim 18 wherein the negative image bar code has a length less than or equal to 52 millimeters.

49. (previously presented) The container system of claim 19 wherein the negative image bar code has a length less than 72 millimeters.

50. (previously presented) The container system of claim 19 wherein the negative image bar code has a length less than or equal to 52 millimeters.

51. (previously presented) The container system of claim 19 wherein the second plurality of light-reflecting segments are indicia having a color selected from the group consisting of white, red, yellow, orange, gold, and silver.

52. (previously presented) The container system of claim 20 wherein the medical container is flexible.

53. (previously presented) The container system of claim 52 wherein each bar code has a length less than 72 millimeters.

54. (previously presented) The container system of claim 52 wherein the material is an overpouch comprising polyethylene, and wherein the overpouch has a thickness of at least 2 mils.

55. (previously presented) The container system of claim 54 wherein the thickness of the overpouch is at least 4 mils.

56. (previously presented) The container system of claim 54 wherein the thickness of the overpouch is at least 8 mils.

57. (previously presented) The container system of claim 52 wherein each bar code has a length less than 52 millimeters.

58. (previously presented) The container system of claim 21 wherein the bar code has a length less than 72 millimeters.

59. (previously presented) The container of claim 22 further comprising a second plurality of light-reflecting segments disposed on the film, wherein the film defines spaces that separate the second plurality of light-reflecting segments, wherein the spaces define a second set of light-absorbing segments, wherein the second plurality and the second set define a second

negative image bar code, wherein the second negative image bar code can be detected by a reader, and wherein the second negative image bar code represents fixed information.

60. (previously presented) The container of claim 59 wherein each negative image bar code is characterized in having an A or B scan grade when decoded in accordance with ANSI X3.182 through an overpouch comprising polyethylene, wherein the overpouch has a thickness of at least 2 mils.

61. (previously presented) The container of claim 60 wherein each negative image bar code has a length less than 72 millimeters.

62. (previously presented) The container of claim 60 wherein each negative image bar code has a length less than or equal to 52 millimeters.

63. (previously presented) A medical container having a bar code comprising:
a negative bar code disposed on the medical container,
wherein the medical container defines at least two spaces in the bar code, the spaces absorbing light,
wherein the negative image bar code is detectable with a bar code reader,
wherein the negative image bar code comprises variable information, and
wherein the variable information comprises at least one selected from the group consisting of: lot number, batch number, expiration date, serial number, production time, price, and concentration.

64. (previously presented) The medical container of claim 63 wherein the medical container is flexible.

65. (previously presented) The medical container of claim 64 wherein the bar code further comprises fixed information.

66. (previously presented) The medical container of claim 63 wherein the spaces have a maximum reflectance of about twenty-five percent.

67. (previously presented) The medical container of claim 52 wherein the negative image bar code comprises a symbology selected from the group consisting of: Code 16K, Code 39, Code 49, Codabar, Code 128, UPC-E, UPC-A, EAN-8, EAN-13, Reduced Space Symbology, composite symbol, PDF-417, and Interleaved 2-of-5.

68. (previously presented) The medical container of claim 64 wherein the negative image bar code is a two-dimensional symbology.

69. (previously presented) The medical container of claim 64 wherein the negative image bar code has a length less than 72 millimeters and is characterized as having an A or B scan grade when decoded in accordance with ANSI X3.182 through an overpouch having a thickness of at least 2 mils.

70. (previously presented) The medical container of claim 64 wherein the negative image bar code has a length less or equal to 52 millimeters and is characterized as having an A or B scan grade when decoded in accordance with ANSI X3.182 through an overpouch having a thickness of at least 2 mils.

71. (previously presented) The medical container of claim 6 wherein the first period of time is one day.